

### **REMARKS**

This amendment is being filed in reply to the Office Action of January 27, 2004, a reply to which is due, without payment of additional fee or petition for extension of time to respond, by April 27, 2004.

Claims 21-34 and 36 have been newly amended to include concentration ranges of components as disclosed in the specification and, in addition, to include additional gel matrix body and gel matrix icon components, e.g., lower alkanols, antimicrobial agents, C<sub>2</sub>-C<sub>6</sub> alkylene glycols and chelating agents.

Process claim 35 has been cancelled.

Claims 37-39 have been newly added. Claim 37 covers the feature wherein each of the gel matrix body and the gel matrix icons contains a gellan gum (a preferred gel matrix polysaccharide) and the icons have a higher concentration of gellan gum than the surrounding matrix, as disclosed at page 12, lines 13-15 of the specification of the above-identified application. Claims 38 and 39 cover the feature wherein each of the icons is in the form of a cube.

It is respectfully pointed out to the Examiner in charge of the above-identified application that there are specific limitations contained in all of the claims which are now pending as follows:

- (a) inclusion of an opacifying agent which is a pigment in each of the molded gel matrix icons which are suspended in the gel matrix body;
- (b) the air freshener article consists essentially of (i) a gel matrix body which is a single body and (ii) fully imbedded within the gel matrix body one or more of the molded gel matrix icons;

- (c) air freshening fragrance is contained in both the gel matrix body and the molded gel matrix icons in a concentration of from about 0.1% - 20% by weight
- (i) where the range of the C log<sub>10</sub>P's of each of the air freshening fragrance components in the gel matrix body is from 1-4 and the average of the C log<sub>10</sub>P's of the components of the air freshening fragrance in the gel matrix body is about 2.5 and (ii) where the range of the C log<sub>10</sub>P's of each of the air freshening fragrance components in each of the icons is from 1-8 and the average of the C log<sub>10</sub>P's of the components of the air freshening fragrance in the molded gel matrix icons is about 4.5;
- (d) inclusion in both the gel matrix body and the icons of a non-gelling hydrocolloid; and
- (e) the surfactant in the gel matrix body having an HLB in the range of 10-30 and the surfactant in the icons having and HLB value of < 10;
- (f) both the gel matrix single body and each of the icons suspended therein contain a lower alkanol, e.g., ethanol, an antimicrobial agent, a C<sub>2</sub>-C<sub>6</sub> alkylene glycol, e.g., propylene glycol, and a chelating agent.

In paragraph2, on page 2 of the Office Action of January 27, 2004, claims 21-25 and 28-36 were rejected under 35 USC §102(e) as being anticipated by Pesu et al, U.S. Patent 6,171,560. In supporting this rejection, the examiner in charge of the above-identified application, referring to Column 3, lines 1-50 of the Pesu et al. reference, indicated that "Pesu teaches the limitations of the claims". It is herewith noted that with respect to the instant ground of rejection (anticipation by Pesu et al. under 35 USC §102(e)), no reference was made to the Affidavit of Richard M. Boden under 37 CFR §1.132 presented with the amendment of October 24, 2003 and no reference was made to Table I located on page 10 of the amendment of October 24, 2003. Particularly in view of the newly presented amendments to the claims and the newly presented claims herewith, it is respectfully submitted that the rejection under 35 USC §102(e) over the Pesu et al. reference has been overcome.

The newly-amended claims require one or more gel matrix icons suspended in a single gel matrix body. The icons of Pesu et al. are indicated as, and shown (reference numeral 40 in Figure 1 of Pesu et al) specifically to be decorative objects. No disclosure in Pesu et al. exists regarding the content of these 'decorative' icons. There is nothing in Pesu et al. to infer that the Pesu et al. icons are gel matrix icons or that they contain one single ingredient as set forth in the claims as newly-amended. The Pesu et al. icons are certainly not cubic icons as are the icons of newly presented claims 38 and 39. No disclosure exists in Pesu et al. of the fragrance content of the Pesu et al. icons or, whether indeed, any fragrance is contained in said icons.

Admittedly, the Pesu et al. reference shows an air freshener having 2-8% of a fragrance oil contained in its two bodies; but no teaching or implication to one having ordinary skill in the art exists in Pesu et al. of the type of fragrance, or for that matter whether there is any fragrance contained in the icons. The newly amended claims each require (i) gel matrix icons containing 0.1-20% of a system-compatible fragrance each of the components of which has a  $C \log_{10}P$  in the range of about 1-8 with all of the components contained therein having an average  $C \log_{10}P$  of about 4.5 and (ii) a gel matrix body containing 0.1-20% of a system-compatible fragrance each of the components of which has a  $C \log_{10}P$  in the range of about 1-4 with all of the components contained therein having an average  $C \log_{10}P$  of about 2.5. No such teaching explicitly or implicitly exists in the Pesu et al. reference.

Admittedly, Pesu et al. teaches the presence of 1-5% surfactant (IGEPAL CA-720) contained in its two bodies (that is, the "top gel" and the "base gel" of Pesu et al) but no teaching or implication to one having ordinary skill in the art exists in the Pesu et al. reference of the presence of a surfactant being contained in each of the icons suspended in the gel matrix body having an  $HLB \leq 10$  in addition to the presence of a surfactant being contained in the gel matrix body having an HLB in the range of from about 10 to about 30.

No teaching exists in Pesu et al. of any relationship of the (a) shrinkage rate of the Pesu et al. icons with respect to the shrinkage rates of the two Pesu et al. bodies on operation of the Pesu et al. article; (b) maintenance of the integrity of the fragrance emitted from the Pesu et al. icons and the fragrance emitted from the two Pesu et al. bodies and (c) maintenance of distinguishing visibility of the Pesu et al. icons in the two Pesu et al. bodies from without said two Pesu et al. bodies. Unlike the disclosure of the Pesu et al. reference, each of the applicants' claims requires:

“(i) the rate of volumetric reduction of each of said icons as a result of fragrance emission and water emission therefrom with respect to the volumetric reduction of the air freshener body which envelops said icons as a result of fragrance emission and water emission therefrom is a constant, according to the equations:  $\partial V_I / \partial V_o = \phi / (1 - \phi)$  and  $\partial^2 V_I / \partial V_o^2 = 0$ , (ii) the integrity of the fragrance compositions emitted from said air freshener body and said icons is maintained and (iii) the distinguishing visibility of the icons in said air freshener body from without said air freshener body, at visible wavelengths, is maintained.”

Indeed, myriad problems existed in the attempts previously made to craft icon-containing air-freshener-emitting articles as a result of the (a) a lack of constant relative volumetric reduction of the icons with respect to the body in which the icons are suspended; (b) lack of maintenance of fragrance composition integrity from both the icons and the body in which the icons are suspended and (c) lack of distinguishing visibility of the icons suspended in the body from without the body.

In paragraph 3 bridging pages 2 and 3 of the Office Action of January 27, 2004, claims 21-24 and 26-36 were rejected under 35 USC §102(b) as being anticipated by Semoff et al., U.S. Patent 5,679,334. In supporting this rejection, the Examiner in charge of the above-identified application, referring to column 3, line 27-column 7, line 27, indicated:

- (a) "The teaching of Semoff meets the limitations of the claims";
- (b) "Semoff's method of preparing the gel air freshener comprises a chilling step; the chilling step ensures suspension of the botanicals (column 5, line 32 to column 6, line 24)"; and
- (c) "The suspended botanicals are equivalent to icons (see DeStefano et al. U.S. Patent 6,214,063, column 3, lines 44-62 and DeStefano is cited for a teaching of botanical icons in a gel)".

As a result of the aforementioned use by the Examiner in charge of the above-identified application of the DeStefano et al. reference in combination with the Semoff et al. reference, applicants will respond to two grounds of rejection apparently propounded by the Examiner, to wit:

- (1) A rejection of claims 21-24 and 26-36 under 35 USC §102(b) as being anticipated by Semoff et al.; and
- (2) A rejection of claims 21-24 and 26-36 under 35 USC §103(a) as being obvious to one having ordinary skill in the art over Semoff et al. taken together with DeSefano et al.

It is herewith noted that with respect to the ground of rejection set forth in paragraph 3 bridging pages 2 and 3 of the Office Action of January 27 (anticipation by Semoff et al. under 35 USC §102(b)), no reference was made to the Affidavit of Richard M. Boden under 37 CFR §1.132 presented with the amendment of October 24, 2003 and no reference was made to Table I located on page 10 of the amendment of October 24, 2003. Particularly in view of the newly presented amendments to the claims and the newly presented claims herewith, and further in view of the averments set forth in the Affidavit of Richard M. Boden under 37 CFR §1.132 filed simultaneously with the Amendment of October 24, 2003, it is respectfully submitted (a) that the rejection under 35 USC §102(e) over the Pesu et al. reference has been overcome and (b) a rejection

under 35 USC §103(a) over Semoff et al. taken further together with DeStefano et al. has been obviated.

The newly-amended claims require one or more gel matrix icons suspended in a single gel matrix body. The icons of Semoff et al. are indicated to be “botanicals”. No disclosure in Semoff et al. exists regarding the content of these ‘botanical’ icons except to specifically indicate at Column 7, lines 15-17:

“Botanicals containing water-soluble dyes or preservative are unsuitable for use as the dyes and preservatives tend to cause bleeding of the botanicals into the gel. This bleeding may be avoided by using botanicals without dyes or preservatives.”

There is nothing in Semoff et al. to infer that the Semoff et al. botanical icons are gel matrix icons or that they contain one single ingredient as set forth in the claims as newly-amended. The Semoff et al. icons are certainly not cubic icons as are the icons of newly presented claims 38 and 39. No disclosure exists in Semoff et al. of the fragrance content of the Semoff et al. icons or, whether indeed, any fragrance is contained in said icons. Nor can the DeStefano reference add anything to the Semoff et al. reference were a 35 USC §103(a) rejection attempted to be supported. The DeStefano candles employing ester-terminated polyamide icons (as opposed to the gel-matrix icons suspended in gel-matrix single bodies of applicants’ invention) are different in kind from either of the Semoff et al. icon-containing system or the icon-containing system of applicants’ invention. Application of the DeStefano reference to the Semoff et al. reference in order to support an obviousness rejection is respectfully urged to amount to a hindsight reconstruction under *In re Oetiker*, 24 USPQ 2<sup>nd</sup> 1443 (Federal Circuit 1992).

Admittedly, the Semoff et al. reference shows an air freshening fragrance having 0.1-15% of a fragrance oil contained in its body which suspends its botanical icons; but no teaching or implication to one having ordinary skill in the art exists in Semoff et al. of the type of fragrance, or for that matter whether there is any fragrance contained in the icons. The newly amended claims each require (i) gel matrix icons containing 0.1-20%

of a system-compatible fragrance each of the components of which has a  $C \log_{10}P$  in the range of about 1-8 with all of the components contained therein having an average  $C \log_{10}P$  of about 4.5 and (ii) a gel matrix body containing 0.1-20% of a system-compatible fragrance each of the components of which has a  $C \log_{10}P$  in the range of about 1-4 with all of the components contained therein having an average  $C \log_{10}P$  of about 2.5. No such teaching explicitly or implicitly exists in the Semoff et al. reference.

Admittedly, Semoff et al. teaches the presence of 6% surfactant (TRITON X-102) contained in its body but no teaching or implication to one having ordinary skill in the art exists in the Semoff et al. reference of the presence of a surfactant being contained in each of the icons suspended in the gel matrix body having an  $HLB \leq 10$  in addition to the presence of a surfactant being contained in the gel matrix body having an HLB in the range of from about 10 to about 30.

No teaching exists in Semoff et al. of any relationship of the (a) shrinkage rate of the Semoff et al. icons with respect to the shrinkage rate of the Semoff et al. body on operation of the Semoff et al. article; (b) maintenance of the integrity of the fragrance emitted from the icons and the fragrance emitted from the Semoff et al. body and (c) maintenance of distinguishing visibility of the icons in the Semoff et al. body from without said Semoff et al. body. Unlike the disclosure of the Semoff et al. reference, each of the applicants' claims requires:

“(i) the rate of volumetric reduction of each of said icons as a result of fragrance emission and water emission therefrom with respect to the volumetric reduction of the air freshener body which envelops said icons as a result of fragrance emission and water emission therefrom is a constant, according to the equations:  $\partial V_i / \partial V_o = \phi / (1 - \phi)$  and  $\partial^2 V_i / \partial V_o^2 = 0$ , (ii) the integrity of the fragrance compositions emitted from said air freshener body and said icons is maintained and (iii) the distinguishing visibility of the icons in said air freshener body from without said air freshener body, at visible wavelengths, is maintained.”

As stated supra, myriad problems existed in the attempts previously made to craft icon-containing air-freshener-emitting articles as a result of the (a) a lack of constant relative volumetric reduction of the icons with respect to the body in which the icons are suspended; (b) lack of maintenance of fragrance composition integrity from both the icons and the body in which the icons are suspended and (c) lack of distinguishing visibility of the icons suspended in the body from without the body.

In summation, the subject matter of newly-amended claims 21-34 and 36 and newly-present claims 37-39 is urged to be patentably distinct from the disclosures of each of the Pesu et al. and the Semoff et al. references as specifically set forth in the following Table I:

**Table I**

<b>Specific Nature of Subject Matter</b>	<b>Claims 21-34, 36 and 37-39 of above-identified application</b>	<b>The Pesu et al. reference</b>	<b>The Semoff et al. reference</b>
The air-freshening fragrance in the gel matrix body and in the molded gel matrix icons	Average $C \log_{10}P$ 's of components of fragrance in body is 2.5; and in the icons is 4.5; $C \log_{10}P$ range for components of body is 1-4 and for components of icons is 1-8	No specific fragrance components or average $C \log P$ 's are set forth	No specific fragrance components or average $C \log P$ 's are set forth
Overall nature of the system	Molded gel matrix icons in gel matrix body, each of which contains air freshening fragrance	Body is two-gel system: A top gel containing decorative icons and a base gel. The top gel contains 'decorative' icons. The decorative icons are not indicated to be molded gel icons the dimensions of which vary directly with the dimensions of the body; or to contain air freshener fragrance	Body is gel system having botanical icons suspended therein. The botanical icons are not indicated to be molded gel icons the dimensions of which vary directly with the dimensions of the body; or to contain air freshener fragrance



Specific Nature of Subject Matter	Claims 21-34, 36 and 37-39 of above-identified application	The Pesu et al. reference	The Semoff et al. reference
Icon Structure	One or more molded gel-matrix icons containing water, surfactant having HLB of < 10, gel matrix material which can be polysaccharide or hydrolyzed protein gel, opacifying agent, non-gelling hydrocolloid and air freshening fragrance	Icons indicated to be 'decorative objects' (reference numeral 40 in Figure 1). No further structural details of icons is disclosed, but observation of Figure 1 clearly shows that the icons are not molded gel matrices.	Icons indicated to be 'color fast and ornamental botanicals' The botanicals are indicated not to contain dyes (Col. 7, lines 15-18)
Body Structure	Water, surfactant having HLB of 10-30, gel matrix material which can be polysaccharide or hydrolyzed protein gel, non-gelling hydrocolloid and air freshening fragrance	Body is two-gel system, each part of which contains gellan gum. the top gel contains dye.	The body is composed of an aqueous gel, a fragrance, a surfactant and a cosolvent. The gelling agent could be a gellan gum.

Indeed, the Pesu et al. and Semoff et al. references teach away from the subject matter defined according to newly-presented claims 21-34, 36 and 37-39, by indicating that the dye and/or opacifiers are to be contained in the gel body; not in the icon(s). The essence of applicants' invention as defined in the claims resides in the inclusion in the molded gel matrix icons of fixed opacifying agent, e.g., pigments.

In paragraphs 4-5 on pages 3 and 4 of the Office Action of January 27, 2004, it was indicated that claims 26 and 27 were rejected under 35 USC §103(a) as being unpatentable over the Pesu et al. reference. However from a reading of the reasons for rejection, it appears that the Examiner in charge of the above-identified application intended to reject the process claims 35 and 36 under 35 USC §103(a) as being unpatentable over the Pesu et al. reference, cited supra. The Examiner in charge of the above-identified application stated;

“Pesu discloses the air freshener of instant application. ...Regarding the time period recited....one having ordinary skill in the art would know how to allow sufficient time for the icon to stay suspended in the body of the gel. Pesu’ steps of preparing the air freshener differs from recited steps. However, selection of any order of mixing the ingredients is prima facie obvious in the absence of new or unexpected results...’

Claim 35 has been cancelled without replacement.

The newly-amended process claim 36 contains limitations equivalent to the limitations as set forth in newly-amended air freshener article claim 21, and the nature of these limitations is specifically set forth supra. The arguments pertaining to the patentable distinctiveness of the article defined according to newly-amended claim 21 over the Pesu et al. reference are presented supra. Furthermore, in view of such additional limitations, and further in view of the averments of Richard M. Boden as set forth in the Affidavit under 37 CFR §1.132 accompanying the amendment of October 24, 2003, it is respectfully submitted that newly-amended process claim 36 defines subject matter patentably distinct from the process disclosed by Pesu et al. It is respectfully pointed out to the Examiner in charge of the above-identified application that Dr. Boden avers that he supervised examples wherein, interalia, air freshener products produced according to the teachings of Pesu et al. were compared directly to air freshener products defined according to Examples of the above-identified application 10/015,367.

Thus, the patentable distinction of the subject matter defined according to claim 36 over the Pesu et al. and Semoff et al. references is emphasized by the averments in the Affidavit of Richard M. Boden under 37 CFR §1.132, wherein Dr. Boden avers:

“...8. As a result of his review of the results of the experiments as described in ¶7, *supra*, he has drawn the following conclusions:

- (a) The clear gel matrix air freshener articles containing molded gel matrix icons of the above-identified application as defined in claims 21-34 as set forth in ¶6, *supra*, have superior, unexpected and unobvious air-freshening properties and appearance attributes when compared to the air freshener articles of either of the Pesu et al. or the Semoff et al. references; and
- (b) The process for preparing the clear gel matrix air freshener articles containing molded gel matrix icons of the above-identified application as defined in claims 35 and 36 as set forth in ¶6, *supra*, effect the production of air-freshening articles which have superior, unexpected and unobvious air-freshening properties and appearance attributes when compared to the air freshener articles of the Pesu et al.. reference.

9. It is his further conclusion, as a result of his observations as set forth in ¶7, *supra*, that the employment of the articles and processes defined by claims 21 – 36 as set forth in ¶6, *supra*, gives rise to significantly unobvious, advantageous and unexpected results when compared with the teachings of the Pesu et al. or Semoff et al. references...”

It is respectfully submitted that the Affidavit of Richard M. Boden under 37 CFR §1.132 accompanying the amendment of October 24, 2003 is sufficient to rebut the rejections based on obviousness under 35 USC §103(a) propounded by the Examiner in charge of the above-identified application in view of *In re Soni*, 34 USPQ 2<sup>nd</sup> 1684 (Federal Circuit, 1995).

The newly-amended claims 21-34 and 36 and the newly-presented claims 37-39 are respectfully submitted not to be rejectable as being based on new matter under 35 USC §132(a), since each of the added limitations as set forth in the newly-presented claims has basis in the specification of the above-identified application as originally filed. Specifically, the following Table II set forth (i) the additional limitation and (ii) the particular location in the specification supporting the given limitation in the claim:

**Table II**

<b>Specific Limitation in Newly-Amended Claims 21-34 and 36 and newly presented claims 37-39</b>	<b>Location in Specification as originally filed supporting specific limitation in newly-amended claims 21-34 and 36 and newly-presented claims 37-39</b>
Air freshener gel matrix body which is a single body	Page 2, line 11; Page 2, line 16
Opacifying agent in icon(s) is a pigment	Page 20, line 12
Icon is in shape of cube	Page 20, line 23
Body and Icon(s) each contain 0.1-20% air freshener fragrance	Page 7, line 23
Clog <sub>10</sub> P of each fragrance component in icon(s) in range of 1-8	Page 10, line 2
Clog <sub>10</sub> P of each fragrance component in body in range of 1-4	Page 8, lines 24-25
Body and icon(s) each contain 50-90% water	Page 12 line 1
Body and icon(s) each contain 0.001-7% antimicrobial agent	Page 12, line 20
Body and icon(s) each contain 0.1-20% lower alkanol	Page 13, lines 3 and 4
Body and icon(s) each contain 0.5-20% C <sub>2</sub> -C <sub>6</sub> alkylene glycol	Page 12, line 26
Body and icon(s) each contain 0.05-4.0% chelating agent	Page 13, line 26
Body and icon(s) each contain 0.1-25% surfactant	Page 13, lines 11 and 20
Body and icon(s) each contain 0.1-10% of clear gel matrix material	Page 12, line 11
Icons have higher concentration of gellan gum than surrounding matrix body	Page 12, lines 16-18

The foregoing amendments and discussion are respectfully urged to be fully responsive to the Office Action of January 27, 2004 and place this case in condition for allowance.

Accordingly, an early action and allowance of the above-identified application are respectfully solicited.

Respectfully submitted  
INTERNATIONAL FLAVORS & FRAGRANCES INC.

By:



Arthur L. Liberman  
Registration # 22,698  
Attorney for Applicants

Arthur L. Liberman  
c/o INTERNATIONAL FLAVORS & FRAGRANCES INC.  
Law Department - 10<sup>th</sup> Floor  
521-West 57 Street  
New York, N.Y. 10019

Telephone: 1-732-291-9434

FAX: 1-732-872-1305

E-Mail: [aliberman@monmouth.com](mailto:aliberman@monmouth.com)

Date: April 15, 2004